

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method of testing the operation of an electronic unit by simulation, said unit ~~being suitable for~~ generating logic signals at specific instants ~~while the, said~~ simulation is being performed by a simulator ~~fitted with~~ comprising at least one microprocessor, said simulator sending simulated input signals to said unit and receiving output signals ~~therefrom~~ from said unit in response ~~thereto~~ to said simulated input signals, the method ~~consisting in~~ comprising:

processing at least some of the output signals from said unit ~~as they are issued by means~~ of in real time by at least one programmable logic circuit, ~~in~~;

storing values of parameters corresponding to said processed signals; ~~and in causing said~~ microprocessor to access

accessing said stored parameter values by said microprocessor at a frequency which is compatible with ~~its own~~ an operating frequency of said microprocessor.

2. (original): A method according to claim 1, wherein said parameter values are representative of switching instants of logic signals generated by said unit.

3. (original): A method according to claim 2, wherein said parameter values are an image

of said switching instants, of the duration during which a logic variable has a predetermined value, and/or the mean value of a logic variable over a predetermined period.

4. (currently amended): A method according to claim 1, ~~consisting in~~ further comprising:
sending at least some of the signals generated by said microprocessor to at least one second programmable logic circuit; and ~~in~~
sending simulation signals to said unit,
wherein the simulation signals ~~being~~ are generated by said second programmable logic circuit while said microprocessor is not in communication with said unit.

5. (currently amended): ~~Apparatus~~ An apparatus for testing the operation of an electronic unit by simulation, said unit ~~being suitable for~~ generating logic signals at specific instants, said apparatus ~~including~~ comprising:

a simulator which comprises at least one microprocessor ~~and which is suitable for~~ sending input simulation signals to said unit and ~~for receiving output signals therefrom~~ from said unit in response thereto, ~~wherein said simulator comprises~~ to said input simulation signals;

at least one programmable logic circuit ~~suitable for receiving~~ which receives at least some of said output signals, said logic circuit ~~being suitable, in real time, for generating in real time~~ parameter values corresponding to the signals that it receives, received by said logic circuit; and ~~for~~

storing circuit which stores said parameter values,

wherein said microprocessor being suitable for acquiring accesses said stored parameter values at a frequency which is compatible with an operating frequency of said microprocessor.

6. (currently amended): ~~Apparatus~~ An apparatus according to claim 5, ~~wherein said simulator comprises at least~~ further comprising at least one second programmable logic circuit ~~suitable, in real time, for sending~~ which sends in real time simulation signals to said unit on the basis of reference signals previously issued by said microprocessor.

7. (currently amended): ~~Apparatus~~ An apparatus according to claim 6, wherein said programmable logic circuit ~~suitable for receiving certain~~ which receives said some of said output signals and said second programmable logic circuit ~~suitable for sending~~ which sends simulation signals to said unit are implemented as a single electronic circuit.

8. (currently amended): ~~Apparatus~~ An apparatus according to claim 5, wherein at least one of said programmable logic circuit(s) is/are circuit and said second programmable logic circuit is of the field programmable gate array type.

9. (currently amended): ~~Apparatus~~ An apparatus according to claim 5, wherein said simulator further comprises at least one of:

an analog-to-digital converter ~~enabling~~ which forward digital signals representative of analog signals generated by said unit ~~to be forwarded~~ to said microprocessor, ~~and/or~~ and

an analog ~~to a~~ digital-to-analog converter ~~enabling~~ which forwards analog simulation signals based on digital signals generated by said microprocessor ~~to be forwarded~~ to said unit.

10. (currently amended): ~~Apparatus~~ An apparatus according to claim 5, wherein at least one of said programmable logic circuit(s) is/are circuit and said second programmable logic circuit is programmed as a function of the type and/or intended use of said unit.

11. (original): An installation for testing electronic units for fitting to a rail vehicle or to an electric vehicle, the installation comprising at least one apparatus according to claim 5.